

What is claimed is:

1. A surface light source device comprising:

a light source body to generate light in response to an electric signal, the light source body having a space filled with a discharge gas to generate the light; and

5 a light diffusion part to diffuse the light generated from the light source body to output diffused light.

2. The surface light source device of claim 1, wherein the light diffusion part is integrally formed with the light source body.

10

3. The surface light source device of claim 2, wherein the light source body comprises:

a first substrate through which the diffused light is output;

a second substrate disposed to face the first substrate, a space being formed

15 between the first and second substrates;

at least one partition disposed between the first and second substrates, the space being regionally divided by the at least one partition;

a sealing member disposed between the first and second substrates to seal the space; and

20 a voltage applying part to provide the electric signal to excite the discharge gas in the space.

4. The surface light source device of claim 3, wherein a sealing layer is formed between the at least one partition and the first substrate so that the space is sealed at a

25 contact area between the at least one partition and the first substrate.

5. The surface light source device of claim 3, wherein a first sealing layer is formed between the sealing member and the first substrate, and a second sealing layer is formed between the sealing member and the second substrate.

5

6. The surface light source device of claim 3, wherein the space is defined by surfaces of the first and second substrates, the at least one partition and the sealing member, the surfaces are coated with a fluorescent layer.

10

7. The surface light source device of claim 6, wherein the surfaces of the first and second substrates have areas in contact with the at least one partition and remaining areas not in contact with the at least one partition, the fluorescent layer being formed on the remaining areas of the surfaces of the first and second substrates.

15

8. The surface light source device of claim 7, wherein the fluorescent layer is formed on the surfaces of the at least one partition which include a surface in contact with the sealing layer.

20

9. The surface light source device of claim 8, further including a light reflecting layer formed between the fluorescent layer and the surfaces of the second substrate and the least one partition.

10. The surface light source device of claim 9, wherein the light reflecting layer is made of material including aluminum oxide (Al_2O_3) or titanium oxide (TiO_3).

25

11. The surface light source device of claim 3, wherein the at least one partition includes two or more partitions having a substantially identical length smaller than a distance between opposite ends of the space in a longitudinal direction of the partitions.

5 12. The surface light source device of claim 11, wherein the partitions each have first and second end portions opposite to each other in the longitudinal direction, the partitions being in contact with the sealing member such that the first end portions of odd-numbered ones of the partitions are in contact with the sealing member and the second end portions of even-numbered ones of the partitions are in contact with the sealing member to
10 partition the space in a serpentine form.

13. The surface light source device of claim 11, wherein the partitions are arranged in a direction substantially perpendicular to the longitudinal direction of the partitions and substantially parallel with each other.

15

14. The surface light source device of claim 2, wherein the light diffusion part includes a light diffusion pattern formed on a surface of the first substrate to diffuse the light generated from the light source body.

20

15. The surface light source device of claim 14, wherein, the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of convex surfaces successively formed on the second surface.

16. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of convex members formed on the second surface such that density of the convex members is higher
5 at a first area through which the light passes than at a second area adjacent to the at least one partition.

17. The surface light source device of claim 16, wherein the convex members at the first and second areas have a substantially identical size.
10

18. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of convex members formed on the second surface such that the convex members have a larger size at
15 an area adjacent to the at least one partition than at an area through which the light passes.

19. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of convex
20 surfaces successively formed on the first surface.

20. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of convex
25 surfaces successively formed on both the first and second surfaces.

21. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of V-shaped
5 grooves successively formed on the second surface.

22. The surface light source device of claim 21, wherein the V-shaped grooves each have a rough surface such that a plurality of convex surfaces successively formed on the surface of the respective V-shaped grooves.

10

23. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of protrusion members discretely formed on the second surface, the protrusion members each having a
15 cross-sectional view of a polygonal shape.

24. The surface light source device of claim 14, wherein the first substrate has first and second surfaces opposite to each other and the first surface is in contact with the space and the at least one partition, the light diffusion pattern including a plurality of grooves
20 discretely formed on the second surface, the grooves each having a cross-sectional view of a polygonal shape.

25. The surface light source device of claim 2, wherein the light diffusion part includes a plurality of light diffusion members disposed on a surface of the first substrate
25 through which the diffused light is output.

26. The surface light source device of claim 25, wherein the light diffusion members have a substantially identical size and are attached on the surface of the first substrate by adhesive.

5

27. The surface light source device of claim 25, wherein the light diffusion members have various sizes and are attached on the surface of the first substrate by adhesive.

10

28. The surface light source device of claim 25, wherein the light diffusion members have a substantially identical size and are securely held by a binder which is coated on the surface of the first substrate.

15

29. A display device displaying images in response to electrical signals externally provided, comprising:

a display panel to display the images;

a surface light source device to provide surface light to the display panel, the surface light source device including:

20

a light source body to generate light in response to an electric signal, the light source body having a space filled with a discharge gas to generate the light; and

a light diffusion part to diffuse the light generated from the light source body to output diffused light, wherein the light diffusion part is integrally formed with the light source body; and

a receiving container to receive and securely hold the display panel and the surface light source device.

30. The display device of claim 29, wherein the light source body comprises:

5 a first substrate through which the diffused light is output;

a second substrate disposed to face the first substrate, a space being formed between the first and second substrates;

at least one partition disposed between the first and second substrates, the space being regionally divided by the at least one partition;

10 a sealing member disposed between the first and second substrates to seal the space; and

a voltage applying part to provide the electric signal to excite the discharge gas in the space.

15 31. The display device of claim 30, further including:

a first a sealing layer formed between the at least one partition and the first substrate so that the space is sealed at a contact area between the at least one partition and the first substrate;

a second sealing layer formed between the sealing member and the first substrate;

20 and

a third sealing layer formed between the sealing member and the second substrate.

32. The display device of claim 30, further including a fluorescent layer formed on surfaces of the first and second substrates, the at least one partition and the sealing

25 member which define the space of the light source body.

33. The display device of claim 32, further including a light reflecting layer formed between the fluorescent layer and the surfaces of the second substrate and the least one partition.

5

34. The display device of claim 30, wherein the light diffusion part includes a light diffusion pattern formed on at least one surface of the first substrate to diffuse the light generated from the light source body.

10